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MORBIDITY AND MORTALITY WEEKLY REPORT

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Current Trends

Viral Hepatitis Type B, Tuberculosis, and Dental Care of Indochinese Refugees

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Dentists and dental groups in several states have recently expressed concern that the Indochinese refugees, 13% of whom are carriers of hepatitis B, represent a significant risk of hepatitis transmission to dental personnel. CDC and the Council on Dental Therapeutics of the American Dental Association have worked together for many years to formulate recommendations for preventing transmission of hepatitis to dental personnel and patients and have prepared the recommendations given in this article. An understanding of the modes of transmission of hepatitis B virus, use of proper sterilization and disinfection techniques, and knowledge of recommended procedures should allow dentists to provide dental care for the refugees in the normal dental office with minimal risk to themselves and virtually no risk to other patients.

Hepatitis B is an occupational hazard of medical and dental personnel, especially those who are frequently exposed to blood. Surgeons, oral surgeons, and pathologists are at highest risk, acquiring the infection approximately 6 times more frequently than the general population. Many of these infections are, however, asymptomatic. About 13% of general dentists acquire hepatitis B, compared to roughly 4% of the general population. Dentists usually acquire their infection from asymptomatic carrier patients. About 3 persons per thousand in the general population are carriers, but several groups are known to have a much higher carrier rate. These include hemodialysis patients (7%), institutionalized mentally retarded persons (7% to 35%), immunosuppressed patients, multiple blood transfusion recipients, percutaneous drug abusers (5%), and male homosexuals (6%). The Indochinese refugees have a 13% carrier rate, but because they are an easily identifiable group, appropriate precautions can be taken. Thus, the risk to the dentist may be less than that from other high-risk groups and from unrecognized carriers in the general population.

The carrier status of many refugees is determined as part of a general health evaluation and is part of their medical record. This information, if requested, should be made available to those providing dental care. If the patient is a carrier or the carrier status is unknown, the dentist should take special precautions. (See below.) As an additional precaution, dentists may wish to be tested for hepatitis B surface antibody (anti-HBs). If they are anti-HBs positive, they are not at risk of acquiring hepatitis B by treating a carrier.

The pathways of hepatitis B transmission of concern when providing care to carrier patients are (1) patient to dentist and (2) patient to subsequent patient via environmental contamination. The hepatitis B virus is most efficiently transmitted from patient to

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dentist when blood from the infected patient's mouth percutaneously enters the dentist's hand through a puncture wound or through a lesion of any kind on the dentist's hand. The more traumatic the dental procedure, the more likely that blood will be present and that hepatitis B transmission will occur. This is presumably the reason oral surgeons acquire hepatitis B more often than general dentists. Another less efficient but possible mode of transmission is via a large droplet spread of blood or fluid that contains virus into the mouth or eyes of the dentist. Parotid secretions are probably virus free, but blood and gingival crevicular fluid can contain the virus; thus, saliva should be considered potentially infectious.

The probability of transmission from a carrier patient to subsequent patients via contaminated environmental surfaces or instruments is extremely unlikely if sterilization and disinfection procedures found in Accepted Dental Therapeutics (7) and in various statements of the Council on Dental Therapeutics are followed. The virus is not believed to be present in aerosols, although it is present in large droplets. Thorough cleaning of environmental surfaces with detergents is the most important step in reducing the amount of virus on those surfaces. There is no well-documented epidemiologic evidence that transmission from a carrier patient to a subsequent patient has occurred in a dental operator.

Dentists can treat carriers of hepatitis B virus in a normal office setting but should take precautions while treating any of these patients, especially if the treatment is likely to produce bleeding. The following procedures are recommended.

1) Single-use gloves should be worn and changed whenever a tear or puncture occurs. Gloves do not prevent all puncture wounds, but do protect existing lesions on the operator's hands from being exposed to blood. Also, a sharp surface may snag a glove instead of tearing the skin.

2) If a puncture wound does occur while working on a known carrier, hepatitis B immune globulin (HBIG) should be used as soon as possible (within 48 hours) at a dosage of 0.05-0.07 ml/kg and repeated in 25-30 days. If HBIG is unavailable, immune serum globulin (ISG, gamma globulin) may be used in the same dosage schedule. If the carrier status of the refugee is unknown and a puncture wound occurs, the dentist should be able to obtain the results of the refugee's carrier status within 48 hours. However, the dentist may prefer to determine the refugee's carrier status before treatment is given so that the use of ISG can be expedited in the unlikely event of an accidental puncture. Pre-exposure prophylaxis is not recommended. Determining the antibody status of the dentist before exposure is reasonable, since use of HBIG is unnecessary if antibody is present.

3) A surgical mask and eyeglasses should be worn to prevent blood from falling on ocular or mucous membranes. Procedures such as rubber dams that tend to reduce spread of infectious material are desirable.

4) Recommended procedures for sterilization and disinfection of instruments and environmental surfaces should be rigorously followed.

Tuberculosis, another important health problem among the refugees, is not a major risk for dentists. Refugees are screened for this disease overseas, and those who are determined to be infectious are started on antituberculous chemotherapy. Furthermore, no refugee with an X-ray abnormality is permitted to travel to the United States until 2 consecutive negative sputum smears are obtained. Persons who have negative sputum smears and have been on therapy for several weeks pose virtually no risk of transmitting infection.

Of greatest concern to the dentists and dental office personnel is the patient with

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unsuspected pulmonary tuberculosis. Because of the thorough screening of refugees overseas and in many local health departments, the rate of unsuspected pulmonary tuberculosis among this group will be quite small. However, patients who are noted to be coughing or to have other symptoms suggestive of tuberculosis can be referred to the local health department or other medical facility for an evaluation if one has not recently been done. If the patient is known to have pulmonary tuberculosis, it would be prudent to postpone dental evaluation and dental therapy until the patient is no longer excreting tubercle bacilli. In case of a dental emergency, the dentist can wear a tight-fitting face mask.

Reported by the Council on Dental Therapeutics, American Dental Association; Hepatitis Laboratories Div, Bur of Epidemiology, and Tuberculosis Control Div, Bur of State Services, CDC.

Reference

1. Council on Dental Therapeutics, American Dental Association. Accepted Dental Therapeutics. 37th ed. Chicago: American Dental Association, 1977:54-65.

Epidemiologic Notes and Reports

Congenital Malaria Infection in an Infant Born to a Kampuchean Refugee — Texas

A 28-day-old Kampuchean boy was admitted to Hermann Hospital, University of Texas Medical School at Houston, on October 31, 1979, with a 2-day history of fever and vomiting. The parents were Kampuchean refugees from northwest Kampuchea who arrived in the United States 2 months before the child's birth; both parents were screened for malaria, with negative results, shortly after their arrival. The mother had no history of malaria symptoms except for unexplained chills before delivery. At birth the infant was noted to be well except for prolonged jaundice. On admission he was found to have hepatosplenomegaly, thrombocytopenia ($42,000/\text{mm}^3$), and monocytosis. Blood smears revealed *Plasmodium vivax*. The infant was treated with chloroquine phosphate, which produced rapid defervescence, resolution of monocytosis and thrombocytopenia, and clearing of parasitemia.

Reported by TG Cleary, MD, University of Texas Health Science Center at Houston; Texas State Dept of Health; Parasitic Diseases Div, Bur of Epidemiology, CDC.

Editorial Note: Although congenital malaria is rare, physicians should consider the disease in any febrile, jaundiced, or anemic child with hepatosplenomegaly born to a mother who has been in an area with endemic malaria. Congenital malaria can be caused by any of the 4 human malaria species. In addition, infection can be present in the neonate even in the absence of a history of acute malaria in the mother during pregnancy.

The treatment of congenital malaria infection due to *P. vivax* differs from that for infection acquired by mosquito bite; primaquine is unnecessary in treating the former because of the absence of an exoerythrocytic stage.

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